

REMARKS

Claims 1-84 are the original pending claims, of which claims 2-5, 9-10,13-15,19-20,25-26,32-33, 36,39-40, 45-46, 49-50, 54-56, 58-59, 63-65, 72-74, 81-84 have been cancelled at this time to expedite prosecution, and without prejudice to prosecution in a continuing application. New claims 85-93 are added at this time to provide additional patent protection.

Claim amendments

Claims 1,11-12,31,34-35,48,57,66,71 and 80 are amended for clarity of language and without prejudice.

Rejections under 35 U.S.C. §102

The Examiner rejected claims 1,2,4,5,7,9,10,11,12,14,15,17-27, 29-35, 37-50, 52-59, and 61-84 as anticipated by Forsman , US patent 6,664,498. Of these listed claims, 1, 12, 22, 35, 48, 57, 66, 75, 84 are independent. Applicant requests consideration, and respectfully traverses this rejection.

Forsman relates to a burst laser processing system where each burst may consist of plural laser pulses. The Examiner states that Forsman discloses that the first pulse in the burst may exceed the damage threshold of the workpiece, and is consequently considered to have a “pedestal” having sufficient energy to thermally heat the target area of the material.

Applicant submits the Examiner has not provided a basis in fact and/or technical reasoning to support the latter assertion regarding the presence of a pedestal in Forsman.

Forsman includes a first pulse and a second pulse with different durations and energy characteristics. Typically the first and second pulses are entirely discrete, although Forsman does describe an alternative where an “intermediate” emission remains between pulses, with a

pulse energy that Forsman describes as “minimal” (see Col. 7, line 14). If the Examiner intended to equate this “intermediate” emission with the claimed pedestal, the comparison is inapt, in that Forsman does not disclose that this emission is capable of heating the target area, or in fact whether it even reaches the target itself. If the Examiner believes the pedestal function is inherent in Forsman, Applicant submits that it must be shown that Forsman’s alleged pedestal *necessarily* thermally heats the target material, as claimed.

Forsman is also silent regarding various other features recited in the independent claims. For example, Forsman does not disclose: (a) a first pulse of about 1 picosecond or shorter (*claims 1, 12, 35, 48, 57 and 66*; (b) first and second pulses having combinations of linear and non-linear absorption (*claims 22, 75*); (c) a second pulse ablating at least a portion of a heat affected zone caused by a first pulse (*claim 35*) or (d) use of ASE with sufficient energy to thermally heat a target area of material (*claim 85*).

Since Forsman is clearly lacking in disclosure responsive to the several claimed elements detailed above, the anticipation rejections are similarly clearly unsupported and, therefore, Applicant respectfully requests that the 102 rejection be withdrawn.

Rejections under 35 U.S.C. §103

The Examiner rejected claims 3 and 13 as being unpatentable over Forsman in view of Jenkins (2003/0196995). The Examiner also rejected claims 6, 16,28,51,and 60 as being unpatentable over Forsman in view of Sasaki (2003/0216012).

Without conceding the propriety of the above combinations, applicant respectfully submits that the rejected and amended claims recite unique combinations of features not present in Forsman, Jenkins, or Sasaki, and that the secondary references fail to cure the many

deficiencies pointed out above. A prima-facie case of obviousness has thus not been established. Therefore, applicant respectfully requests that the 103 rejections be withdrawn.

In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

Respectfully submitted,

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